

Personnel Certification: A pathway to scaling and assuring greenhouse gas measurement, reporting, and verification

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INTRODUCTION

Around the world there is substantial disparity in the focus, design, and implementation of programs and policies that require the measurement and management greenhouse gas (GHG) emissions. Yet in all these permutations, one element is held sacrosanct across schemes: data quality. The assumption that GHG emissions data are comparable, like to like comparisons—or in the *lingua franca* of the practice of carbon reporting, that “a ton is a ton is a ton”—is an embedded precondition in all flavors of climate programming, from emissions trading to climate risk disclosure.

Quality GHG data are integral to a range of climate policy/program objectives. For example, data quality is: an essential consideration in ensuring a program’s environmental integrity; critical to meeting stakeholder demands or regulatory mandates; and a prerequisite for developing functional financial markets for carbon commodities. In keeping with the importance of data quality, substantial effort has been dedicated to developing methodologies and protocols to accurately account for emissions. The development of this corpus of standards has provided a forum for discourse and debate on the technical aspects of GHG measurement and accounting approaches, a dialogue that has been host to deliberations on concepts and methods ranging from boundaries and baselines to sampling and statistics.

In contrast to the detailed attention the methodological aspects of GHG measurement and accounting rules have garnered, the implementation of these standards—i.e., the actual measurement, reporting, and verification of GHG emissions—has not been as closely considered. This is an important oversight. With respect to GHG emissions data, quality is contingent both on quantification and verification standards, but also, critically, the practical application of these methods.

A number of components codified into the design of climate programs warrant consideration when looking at the implementation of GHG measurement, reporting, and verification. Chief among these implementation challenges is the difficulty of ensuring that the practitioners undertaking this work possess sufficient skills and experience to meet the standards of practice envisioned by program designers. Gaps between expected and actual practice in GHG measurement, reporting, and verification have had material impacts in the operation of climate programs across jurisdictions. Standards developers and program administrators have taken measures (both proactive and reactive) to meet these challenges, yet diversity persists in approaches to manage personnel competency

and its impacts on data quality. (While some programs have aligned with certain design approaches, there has and continues to be an iterative evolution of these elements.)

Limited comparative policy research has been conducted on different approaches to incorporate competency requirements into climate change policies and programs. This abstract and corresponding presentation aims to assess this gap by looking narrowly at the incorporation of competency requirements into quality assurance measures (namely third-party verification) for GHG offset programs. The review will provide an overview of existing approaches and conclude with an alternative, the recognition of professional certification.

BODY

Quality Assurance in GHG Markets: Conceptual Overview

Auditing and other quality assurance systems are essential features of a complex marketplace, providing confidence to stakeholders that the quality of assets, as well as associated investment risks, are well understood by buyers, sellers, regulators, and other stakeholders. Recent tumult in global financial and corporate accounting systems has provided ample evidence of the importance of government oversight and regulation, quality assurance processes, institutions, professional competency, and ethics. As GHG emission markets depend on the political process for both their creation and continued existence, they are particularly sensitive to public confidence and are unlikely to survive a crisis of confidence.

Environmental markets are more susceptible to quality assurance failures than traditional financial markets because the underlying asset is a public good, corresponding to a ton of an invisible gas. In the case of GHG emission markets, the commodity traded is a permit to pollute or a credit for a reduction in pollution to the atmosphere. Verification of claims in environmental markets make it possible to convert what is naturally a public good into something that can be traded like a privately held asset. In environmental markets without rigorous oversight, there is no incentive for buyers and sellers to assure the quality of the assets they are trading because the only victim of poor quality is the public good. Buyers get a cheaper price and sellers incur fewer pollution reduction costs when an environmental asset does not accurately represent real emissions or emission reductions. The environment loses when both buyers and sellers let quality slip. Therefore, it is the duty of quality assurance professionals (e.g., verifiers and regulators) to safeguard the marketplace by assuring that environmental assets represent real public goods.¹

GHG Offset Program Administration: Assuring GHG Data Quality in Practice

Faced with the real challenge of ensuring GHG offset programs meet data quality requirements, policy makers and program administrators work in concert to develop and implement quality assurance schemes. As introduced in this abstract, the quality of GHG data “inputs” and the relationship between data quality and personnel competency is a persistent design challenge for policy framers and a management challenge for program administrators. Below are two concrete examples of this relationship, which underscore the degree to which programs have reconfigured institutional arrangements to take on a

larger quality assurance role and how they have actively audited and governed third-party auditors.

Institutional arrangements

The United Nations Framework Convention on Climate Change (UNFCCC) administered Clean Development Mechanism (CDM) offset program has been the subject of substantial criticism for its slowness in granting project approvals. Delays in the UNFCCC process have been attributed to a number of factors, some of which were summarized in an independent operational review undertaken by management consultancy McKinsey. Central to McKinsey's diagnosis of this problem was the quality of submitted GHG work and, in turn, the strain the secretariat encountered in taking on additional quality assurance measures to ensure data quality met program objectives, a role much larger than that originally envisioned of the secretariat. In McKinsey's curt language: "The clear message here is that the quality of inputs submitted to the secretariat is increasingly poor. This results in significantly higher workload for the secretariat and increasing frustration amongst all participants."² Similar challenges have manifested themselves in other climate programs, such as the Climate Action Reserve, a North American voluntary offset program.

Third party verification oversight

The CDM Executive Board's suspension of a number of firms accredited to validate and verify CDM projects ("Designated Operational Entities") for deficiencies related to human resource competencies provides an example of a program auditing and disciplining program auditors for nonconformance to competency standards (i.e., auditing the auditors).³ The bluntness of the mechanism by which to address these nonconformities (i.e., suspending the entire operations of the verification body) and questions around the methods and process behind the Executive Board's suspensions (e.g., in a recent survey of market participants, respondents split equally on the question of whether these suspensions represented "functioning" or "failing" oversight of GHG verifiers⁴) point to a related governance challenge that again exceeds originally envisioned institutional roles and associated planning and arrangements. The task of auditing the auditors has also proven challenging in other programs and jurisdictions, in many cases overwhelming existing design elements and institutional capacity.

Assuring GHG Data Quality in Practice: Program Design in GHG Offset Programs

Diversity in the design and implementation of GHG offset verification programs highlights the evolutionary approach taken to managing competency in quality assurance accreditation. A quick look at existing and proposed accreditation programs reveals two basic entry points for assessment of verifier competencies —entity-level (i.e., firm-level) accreditation and individual testing. In a related point, this overview also highlights competing approaches with respect to whether the program administrator serves as the accrediting body or whether it is outsourced to national standards bodies.

Figure 1. Table comparison of GHG offset verifier accreditation models

Level of accreditation	Accreditation body	Example
Entity-level accreditation	National standards bodies (NSBs)	ANSI ISO 14065* accreditation
	Program administrators	UNFCCC CDM/JI verifier (DOE/AIE) accreditation
Entity-level accreditation + individual course/exam requirement	NSBs (entity); program (individual exam)	Climate Action Reserve verifier accreditation
	Program (entity); program (individual exam)	California Air Resources Board verifier accreditation†

**Following the recent release of ISO 14066 (“Competence requirements for greenhouse gas validation teams and verification teams”), ANSI will incorporate competency requirements for teams as part of ISO 14065 accreditation. (ISO 14066 does not, however, require examination nor does it explicitly place individuals as the point of assessment but rather considers the collective competencies of teams of individuals.)*

† At the time of this writing draft considerations exist to permit Climate Action Reserve verifiers to be “grandfathered” under Air Resources Board accreditation. (An alternative example of program-administered offset verifier accreditation that assesses competency at both entity and individual levels is the program administered under the Regional Greenhouse Gas Initiative. Although it should be noted that due to weak market fundamentals, no offsets have been verified under this program.)

Professional Certification: An Alternative Approach to GHG Verifier Accreditation

Personnel certification is the cornerstone of most fields deemed critical to social welfare. In addition to increasing oversight, it offers a series of other benefits. Pairing professional certification with entity-level accreditation introduces an ethical dimension poorly addressed at the organizational or team level, an essential buttress to any accreditation scheme. Further, individual certification unambiguously outlines a career path for aspiring professionals, key to meeting the scale and pace of market demand for qualified practitioners.

Integration of robust individual certification offers: a clear professional path for career-minded individuals to enter the field, thereby increasing the supply of personnel; greater clarity for GHG auditing firms and other service providers regarding their human resource decisions; an added layer of quality assurance for regulators and program administrators, with the guarantee of a minimum level of competency and ethical practice amongst practitioners; and a complementary system of oversight focused on the individuals actually performing GHG audit work.

In sum, individual professional certification supported by intensive comprehensive training is a nimble, cost-effective policy mechanism that meets the dual goals of ensuring technical competency and enhancing quality assurance.⁵

SUMMARY

Policy considerations on quality assurance garner limited attention, yet are central to the operation and continued existence of schemes that require the measurement and management of GHG emissions. In an apparent response to the challenges of implementing quality assurance standards, the integration of competency requirements into GHG verifier accreditation programs has and continues to evolve. To date this divergence has focused on entity-level accreditation and testing and examinations of individuals, but with the emergence of personnel certification this issue has been rejiggered with a new mechanism emerging to systemically address competency.

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